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The Public Health Journal

Vol. XIX AUGUST, 1928 No. 8

The Promotion of Rural Public Health in Ontario*

John W. S. McCullough, M.D., D.P.H.

THE administration of public health in Canada is primarily the duty not of the provinces, but of the Dominion. The British North America Act, which forms the Constitution of Canada, specifically mentions those matters which, at Confederation, came under the jurisdiction of the provinces. All not so mentioned were left to the Dominion. As health is not mentioned at all in the Act, it follows that the administration of health matters properly belongs to the Federal Government.

The earliest evidence of the recognition of Public Health in Canada was the enactment of the Quarantine Act in 1794.

The epidemic of cholera, 1832-4, stimulated the Legislature of Upper Canada to action, and an "Act to Establish Boards of Health" was passed by that body. From this time to 1848 there was little or no activity in respect of public health matters. (The Provinces of Upper and Lower Canada were united in 1840.) There was a typhus epidemic in Canada in the years 1845-47, and one of cholera in 1849, and again in 1854-5. It will be of interest in passing to note that in 1847 immigrants to the number of 98,106 passed through the Port of Quebec. Of these 8,691 were admitted to Grosse Ile Hospital; 3,226 of these and 2,198 others on ships in quarantine died of typhus fever, and are buried at Grosse Ile. The outbreak of cholera was doubtless the reason for the enactment establishing "A Central Board of Health" in 1849. The public mind remained undisturbed in respect of public health until 1866, when the outbreak of cholera in that year induced the Government to enact new regulations looking to the control of the disease.

Confederation of the provinces of Canada occurred in 1867, and in 1873 a Public Health Act, passed in Ontario, permitted the appointment of members of municipal councils and trustees of police villages to act as health officials. These were the forerunners of the present local boards of health.

Apparently our forefathers, something like ourselves, needed an epidemic of some sort to create an interest in health matters. There was a severe outbreak of yellow fever in the United States in 1877. In the following

*Read before the Section of Preventive Medicine, Academy of Medicine, Toronto, Feb. 23, 1928.

year a select committee of the Legislature of Ontario was appointed to consider a report *"on the subject of sanitary matters for maintaining and promoting the public health"*. In consequence of this report agitation became quite general about 1881 for the creation of some permanent central organization in Ontario, and in 1882 the Provincial Board of Health was established, a permanent secretary appointed, and the Dominion Government relieved of a responsibility which that government had consistently evaded.

This situation of affairs is chiefly of importance from the financial side, since the provincial care of public health entails a large expenditure, the appropriation in Ontario for the present being about $750,000.

At the present time the Dominion Government has a Department of Health (since 1919) and a budget, the expenditure for the fiscal year, 1925-6, being $884,111.86.

FINANCIAL STATEMENT

SUMMARY OF EXPENDITURE FOR THE FISCAL YEAR 1925–26

Service	Gross Expenditure	Refunds	Net Expenditure
Civil Government Salaries	$153,503.99	—	$153,503.99
Civil Government generally	1,210.65	—	1,210.65
Civil Government Contingencies	47,645.02	2,263.72	45,381.30
Food and Drugs	79,241.90	1,739.38	77,502.52
Opium and Narcotic Drugs	15,978.76	86.74	15,892.02
Proprietary or Patent Medicines	2,404.35	—	2,404.35
Pollution of Inland Waters	5,400.00	—	5,400.00
Marine Hospitals, etc.	141,844.73	1,845.75	139,998.98
Quarantine	176,470.52	263.18	176,207.34
Leprosy	19,151.65	—	19,151.65
Public Works Health Act	4,292.55	200.00	4,092.55
Immigration Medical Inspection	66,990.04	696.09	66,293.95
Laboratory of Hygiene	4,359.90	254.10	4,105.80
Venereal Diseases	119,519.31	—	119,519.31
Gratuities, Civil Service Act, 1918, Sec. 30	350.00	—	350.00
Unforeseen Expenses	97.45	—	97.45
Child Welfare Association	5,000.00	—	5,000.00
Canadian Social Hygiene Council	10,000.00	—	10,000.00
Canadian National Committee on Mental Hygiene	10,000.00	—	10,000.00
Canadian Tuberculosis Association	25,000.00	—	25,000.00
Allowance to the widow of the late A. Laliberte	3,000.00	—	3,000.00
	891,460.82	7,348.96	884,111.86

As will be seen from the foregoing statement, a large proportion of this expenditure is for purposes entirely outside the domain of public health, and even if the entire sum were devoted to this purpose it seems a beggarly amount for the government of a prosperous country such as ours to appropriate for the care of its people's health. When one considers the enormous sums spent in the promotion of public health by the government of Great Britain, the Canadian expenditure in this direction seems ridiculously small.

Moreover, the Federal Government has taken pains to disown its responsibility in reference to health matters in the provinces, for the "Act Respecting the Department of Health" passed in 1919, Sec. 7, says:

"Nothing in this Act or in any regulation made thereunder shall authorize the Minister or any officer of the Department to exercise any jurisdiction or control over any Provincial or Municipal Board of Health or other health authority operating under the laws of any province."

So it seems that the Dominion Government is determined to evade any responsibility for the administration of public health, and with this in view it remains for the provinces and municipalities to carry on as they have been endeavouring to do since Confederation.

THE ADMINISTRATION OF PUBLIC HEALTH IN ONTARIO.

For the past 45 years the local administration of public health in Ontario has been in the hands of the municipality. The law, since 1882, has confided the local administration of health matters to the care of a local board of health and of a medical officer of health. This is the form of organization in the large cities, the towns, villages and townships. The local officials are appointed by the municipal councils, and until recent years both the board and the medical officer of health were subject to change every year. By legislation established in 1914 the tenure of office of the medical officer of health became somewhat permanent; that is to say, he can no longer be dismissed at the whim of the local municipal council. There must be cause, and the cause is subject to revision by the Provincial Board of Health, or more lately, since the abolition of that body, by the Minister of Health. This wise precaution, similar, by the way, to that of England and Wales, has served to give a degree of permanency to the office of medical officer of health, to increase the independence of that officer, to secure him against mischievous local politics, and to render his service of greater value to the community.

There are 926 organized municipalities in Ontario (1925). Twenty-six of these are cities, having an aggregate population of 1,265,064. The total population of the Province, including the unorganized territory, is approximately 3,000,000. Thus it will be seen that over half of the people live outside the cities, and may for public health purposes be classed as a rural population.

But three of the cities of Ontario fall within those of the first class, that is to say, have a population of 100,000 or over; two reach 50,000 or more, while of the remaining 21, seven each have respectively about 20,000, 15,000, and 10,000 inhabitants.

Of the 26 cities, but ten have a whole-time public health service. In all the other municipalities public health work is in the hands of a local board of health and of a part-time medical officer of health who practises medicine in the neighbourhood. This type of organization is one of the weak spots in the health organization of Ontario.

THE MUNICIPAL HEALTH UNIT A FAILURE.

Experience has shown that our present plan of public health administration, through the medium of the municipal unit and where the medical officer of health is a part-time officer, is lacking in efficiency. The experience of Ontario has been the experience in England and in the United States, and in these, as well as in most civilized countries, efforts are being made to replace the part-time by a whole-time public health service.

The reason for the comparative failure of the municipal health unit, particularly in the case of the small towns and rural areas, is, first, that this unit is too small and too poor financially, to bear the expense of a proper organization; and, second, the medical officer of health is unable to render efficient service because, as a rule, he is not trained for work of the kind; he is paid a very small remuneration, and ordinary medical practice rather than the work of preventive medicine, is his chief source of livelihood. Moreover, the fact that he occupies the position of medical officer of health serves to interfere with his practice. Many families who would otherwise employ him are deterred from doing so because they fear, if the disease in their households should prove to be a contagious one, that they are more likely to be quarantined if under his care, than if in charge of some other practitioner. In addition, it is notorious that his confreres in practice are less likely to report cases of communicable disease to a fellow practitioner, in the position of M.O.H., than if that officer were not in competition with them in practice. It is found in the larger cities where the whole-time M.O.H. confines his energies to the work of public health that, invariably, he is ambitious to promote the work of preventive medicine, that he has the undivided support of the medical profession, the press and the public in his endeavour, and that all phases of public health work are advanced in a high degree much to the interest of the people involved.

The municipality, except in communities of considerable area and population, cannot afford a whole-time medical officer of health and the organization necessary for adequate promotion of modern public health work, the value of which to the community is not always apparent. The value of preventive health measures is more quickly appreciated in the towns than in the rural areas. This fact becomes apparent if we take, for example, the public health expenditure in one or two of the counties of Ontario.

Simcoe is one of our largest counties. The population is over 80,000, the assessed value over $48,000,000 and the total annual income aside from school taxes over $2,500,000. There are 16 townships and 14 towns or villages and altogether 30 local boards of health and medical officers of health. The total expenditure on public health is but $8,145 a year, or about 10 cents per head of population. Simcoe is a wealthy county. Of the total expenditure on health, $5,782 is spent in the towns and villages with an aggregate population of 41,320, and $2,363 in the purely rural areas, where the population is 38,942, or less, in the latter, than *one cent per head of population.*

Welland, in the Niagara peninsula, has a population of 76,000 and an assessed value of about $68,000,000. The annual tax income apart from school taxes is about $1,720,000. This county has 18 municipalities, including two small cities and three towns. The county is partly agricultural and partly industrial. It is on the shipway channel from west to east. This, with the advantage of cheap electrical power and its proximity to the U.S. border, places the county in a position of economic advantage. It is bound to become one of the wealthiest and most important areas in Ontario. The entire county spends $18,000 a year or 36 cents per head of population in public health work. But of this amount $15,983 is absorbed by Welland, Port Colborne, and Niagara Falls, none of which possesses a full-time health organization. Of the total amount, there is left but $1,452 for the remaining 15 municipalities whose aggregate population is about 46,000. Thus it appears that the small towns, villages and rural areas of the county spend just over *three cents per head of the population on public health.* It is a well-known estimate that $2.50 per head of population is required adequately to carry on public health work; therefore it is apparent how little consideration the citizens of Welland County and their children in the rural and suburban areas are receiving in the prevention of disease and the promotion of their health.

Similar examples of neglect in respect of public health work may be gained in most of the counties of Ontario, outside a few cities where the municipality supports a whole-time health organization.

The funds spent on public health in the areas of Ontario (all but 10 cities) under the part-time system are largely wasted or misapplied. Under our system, outbreaks of disease reach considerable proportions, and sums which otherwise might have been used to advantage for preventive measures are dissipated in correcting conditions which should never have arisen. It is a case of belated cure rather than prevention. Last year a community of approximately 2,000 persons, served by a badly supervised though filtered water supply, developed in a few weeks 52 cases of typhoid fever with 9 deaths, the water having become polluted because of a broken intake pipe, *the condition of which was well known to, but neglected by the local authorities.*

Experiences of the kind have filled the history of public health in Ontario and elsewhere for a generation. The milk supply of most of the small towns and villages is a potential public health menace. The same may be said of the domestic water supply of most of these places. On a small scale there are hundreds of places where the opportunity for an outbreak of milk-borne disease, similar to that of Montreal, exists at all times. There is no effectual means of checking the incidence of tuberculosis, of maternal and infant mortality or of the range of infections threatening or impairing the lives of our children. We know these things, yet the public cheerfully go on from day to day suffering the losses entailed when they might curtail them to a

large extent by the services of a competent medical officer of health and a well-organized health organization.

COUNTY HEALTH SERVICE.

The movement for a county health service or some consolidation of small health units began in England and has spread to the United States.

The movement for county health areas is a slow one. The first county in the United States to establish a Health Department with a whole-time health officer was Yakima County, Washington, and the date was 1911. Sixteen years later, on December 31, 1927, there were 408 counties or districts with a service of the kind. The United States has over 2,800 counties in which the population is predominantly rural, so that with development at the rate which has prevailed from 1911 to 1927, it will take over a century for the rest of the rural counties of the United States to acquire a full-time health service.

Dr. John A. Ferrell, of the Rockefeller Foundation, a man of wide experience in public health administration, says: "In the United States the county, as a rule, is the governmental unit which best serves as a basis for local organization. The average town or township is generally too weak in wealth and population to support a creditable full-time health service."

Alfred E. Smith, the progressive Governor of New York State, has shown remarkable interest in the development of rural public health work in that State. In his message to the Legislature in January 1926, he said: "The unit for local public health work should be the county with a full time qualified county health officer who should be made responsible for the conduct of local health matters within his jurisdiction, with only such supervision as the State may be required to give in an ordinary capacity."

As an incentive to the establishment of county boards of health, provision was made in the law of New York State in 1924 whereby the State Treasury agrees to reimburse the county for *one-half* the expenditures incurred for public health purposes.

Almost every State of the United States has now one or more county health units. Ohio has 47, Alabama 28, Georgia 22, North Carolina 35, South Carolina 16, Virginia 14, Missouri 13, etc. These are nearly all rural, and as already pointed out, there were on Dec. 31, 1927, a total of 408 whole-time county health organizations in the United States.

COMBINED AREAS.

In England, which has had the longest experience of any country in public health administration, similar views prevail in government and public health circles. In England and Wales the newer local unit is a consolidation of municipalities which usually includes half a county with the contained towns and villages, the unit being called a *"combined area"*.

*Considerable progress has been made in this direction, there being at

*30th June, 1927. 1662 Local Sanitary Authorities with 1233 M.O.H.'s; 351 whole-time; 882 part-time.

the present time some 350 "combined area" health units, where the medical officer of health is a whole-time officer whose qualification is subject to the approval of the Ministry of Health. Personal investigation into this system shows that it is giving a high degree of efficiency; the medical officers of health are well trained, reasonably well paid, and the results are much better than under the part-time system.

In England, Wales and Scotland, one-half the salary of an approved medical officer of health and usually about one-half, and in respect of the control of affections such as venereal diseases, 75 per cent of the expenditure is borne by the British Government.

What is the Remedy for our Inefficient Rural Health System?

The first thing necessary in my opinion to the improvement of rural public health is legislation enabling municipalities to combine for public health purposes. Most of our counties are too large to operate as efficient health units. A few, such as Peel, Halton, Grenville, and some others are admirably suited in size and other respects for such an experiment. From the larger counties such as Grey, Simcoe, York, Middlesex, etc., two or more health units might be formed. No project of the kind, however, will, in my opinion, prove successful unless the Government is prepared to bear a greater proportion of the cost of local public health work than at present; and it seems to me that no policy of government would be of greater value, not only to the public, but also to the Government itself, than that of greatly increased expenditure for health purposes. The value to the public would accrue in the improvement of health, reduction of mortality and lessening of poverty. The value to the government would be seen in reduced expense for institutional care, as, for example, in tuberculosis, and mental disease. The reduction of hospital expense both in respect to capital and per diem allowance would certainly follow adequate public health administration in the rural areas.

Something more than legislation is necessary for a project of the kind. The public has for over half a century been wedded to municipal government. It is a useful form of local government, but the municipality with a small population cannot finance a proper health administration. There should be established *half a dozen or more "combined areas"* or *county health areas, for the purpose of demonstrating their value in health work*. These areas should be operated by the county and the government for a period of say five years so as to show the public what may be accomplished by proper administration. Experiments of the kind, if properly carried on, would serve to educate the population in the value of advanced public health measures, and to pave the way for the establishment of full-time health organization in every county.

Ontario has already one working example of a "combined area". For several years, the municipalities (seven in all) grouped about and including

the city of Windsor, have operated as a single health unit with a full-time health officer and the usual staff necessary to the successful operation of a whole-time health organization. The experiment has been eminently satisfactory. If no other evidence of this were available the control of the virulent outbreak of haemorrhagic smallpox in the area during the winter of 1924, when the number of cases was limited to 67 with 32 deaths, would be sufficient to show the high value of the services of a competent health officer and staff. That this outbreak of the most severe type of smallpox was confined to the low number mentioned is absolute proof of the fine service rendered by the local M.O.H. and his organization.

In the control of this and other communicable affections, in the protection of the local milk and water supplies, in medical inspection of schools, in the spread of health education and in the promotion of all phases of public health, the "combined area" of Windsor is a shining example of what may be accomplished by a competent health service.

The Director of the Provincial Bureau of Health, Province of Quebec, after a study of certain of the county health organizations operating in North Carolina and Ohio, recommended that a similar type of organization be adopted in Quebec, where previously the municipality with a part-time officer, as in Ontario, formed the health unit. The Director describes the county health unit of Quebec as follows:

"It consists in the establishment, in a county or in two small neighbouring counties, of what I might designate as a 'bureau of health in miniature', composed of a full-time medical officer, two or more public health nurses, a sanitary inspector charged with the enforcement of the health regulations and with the education of the municipal officers, together with a secretary to handle the clerical work of the office, which is generally located in the principal town of the county. The whole population of the county is thus submitted to constant supervision on the part of this staff. Health education is intensively carried on, a considerable amount of propaganda work is done continually, and not a single municipality escapes the attention of the officers of that unit."

He goes on to say:

"We have considered it advisable to establish five or six health units in as many counties of our province for the first two years, *as a demonstration,* trusting that this system, wherever it will be fairly tried, will reduce considerably the mortality from infectious diseases, tuberculosis, as well as the infant mortality. In fact, instead of attacking only one phase of the public health problem as it is necessary in our cities, through the dispensaries and the child welfare stations, this unit system attacks the problem in its entirety, takes up the whole question of general public health, with the expected result that, after a few years, the population will enjoy better living conditions, will take proper means to protect infancy and childhood, the period when

tuberculosis is ordinarily contracted, with the consequence that this dread disease, together with many others, will be checked and gradually eliminated.

The minimum annual budget of a county health unit in our province varies from $11,000 to $14,000. For the demonstration counties the Government has adopted the principle of contributing half of the amount. It is our lot to find the other half, which is not always a small difficulty.

Fortunately, the Rockefeller Foundation has granted us most generous help, and its contribution for the actually organized counties amounted for the first year to twenty-five per cent, and in one instance, to nearly thirty-five per cent of the total cost. But the Foundation, and rightly so, requires as a condition of its financial assistance, that the local authorities, the County Board and the independent municipalities, for instance, do their part. On the other hand, it has assumed all the expenses incurred for the field training of the medical officers and nurses appointed to take charge of the units, and as a fact, our staffs so far have studied two or three months in the counties of the State of Ohio for that purpose."

It may be argued that opposition to the proposed form of health administration in Ontario would come from the local municipalities or from the county councils. The whole matter is one of education. In reference to this point the Director says:

"I may say that we have met from practically all the county councils, before which we have offered to explain our proposal, the most generous answer. They have voted a tax on the assessable properties of the whole county, and I am under the impression that this is the first example in our country of a rural population taxing itself for public health purposes."

The Government, local authorities and the Bureau of Health of Quebec are to be congratulated on the establishment of the advanced type of health administration evolved for that province. Until something of a similar nature is organized in Ontario we shall fail to maintain our hitherto unassailed position as the most forward of the Canadian provinces in public health administration.

To cover the older portions of rural Ontario approximately 60 full-time medical officers of health would be required. Each local organization would require an initial budget of at least $10,000, to provide for a whole-time medical officer of health, one or two nurses, a sanitary inspector and a stenographer for the clerical work. The total budget required for this purpose would thus be $600,000. The rural areas of Ontario are now spending $300,000 on a very inefficient service. If the Government would come to their assistance, as I think, under such a system the Government should, the problem would readily be solved.

The history of reforms of the kind shows that advancement is slow. It has been slow in Great Britain and the United States, so that the financial beginnings of the scheme would not be burdensome, and as already pointed out, the establishment, by co-operation of the Government and certain counties,

of half a dozen "demonstration whole-time areas" would form an educational scheme serving rapidly to advance the plan.

PUBLIC HEALTH EDUCATION.

The experience of those engaged in public health administration in Great Britain, the United States and other countries where public health is more than an experiment shows that not only is the full-time health unit necessary for the successful administration of this important public service but that, in addition, there must be education of the public in health. This can only be satisfactorily carried on where there is someone on the spot charged with this duty and supported by a competent organization and sufficient funds for the purpose.

The best places to pursue education of the public in health are in the primary schools and in the homes where children of pre-school age are found. In this province and elsewhere medical inspection of schools was established primarily for the purpose of lessening disease among school children and in order to discover individual defects of one kind and another and to initiate measures to prevent and cure such conditions. But in this field it is impossible satisfactorily to advance this valuable service without any one qualified to carry it out.

Education of children in health and its adjunct, medical inspection of school children, depend chiefly for their advancement upon well trained local medical officers, nurses and other services which will never be available under our present system of municipal units, particularly in the small towns, villages and rural areas.

The value of education in health is very well summed up in the observations made as long ago as 1840, of Charles Wilson, a Scottish country doctor.

"When man shall be brought to acknowledge (as the truth must finally constrain him to acknowledge) that it is by his own hand, through his neglect of a few obvious rules, that the seeds of disease are most lavishly sown within his frame and diffused over communities: when he shall have required of medical science to occupy itself rather with the prevention of maladies than with their cure: when governments shall be induced to consider the preservation of a nation's health an object of importance as the promotion of its commerce or the maintenance of its conquests: we may hope then to see the approach of those times, when, after a life spent almost without sickness, we shall close the term of an unharassed existence by a peaceful euthanasia."

CO-OPERATION OF THE MEDICAL PROFESSION.

Success in public health work demands co-operation of a well-trained medical profession. In the main we have such a profession in Ontario. In perhaps no other part of the British domains or in any other country is the

medical practitioner better trained than in Ontario. But his co-operation cannot be secured so long as the medical officer of health is a physician, competing with his medical neighbours for practice. The physician should be the auxiliary of the medical officer of health, and his services should at all times be employed by the local health administration whenever possible.

PUBLIC HEALTH LABORATORIES.

The Public Health Laboratory should be readily available to all medical practitioners as an aid to diagnosis. The laboratory should not limit the physician's use of his own skill and senses. It should form an auxiliary to the physician's powers of observation like all other scientific and mechanical aid. There should be attached to every health unit a laboratory. It is unfair that the city physician should have such assistance at his door and that similar aid should be denied the rural practitioner.

In describing the working and value of the County Health system in New York State, Mr. John Walrath, President of the County Board of Health, Cattaragus County, stated that his county, under the whole-time organization, had changed its record from "almost the worst" in the State, for losing babies under a year, to *almost the best;* that unknown cases of tuberculosis had been hunted out and put under care, there being on the date of his address 583 cases on record in comparison with less than 150 before the County Health Department was established. Now the County Sanatorium had been transformed from a place where advanced cases went to die, to an educational institution where patients go for a "course of schooling." He told how venereal diseases were being treated and described the present arrangements for discovering and correcting the physical defects of school children. In closing he gave a dramatic account of the first life saved by the county laboratory.

"We had," he said, "a case of anthrax. That is a terrible disease. They tell me it is almost sure death. A young fellow, a contractor, just married, went to one of our physicians, who had suspicions immediately that it might be anthrax. We had just started our laboratory. In half an hour a sample of that stuff was over in Olean being analysed. The doctor's suspicions were confirmed and he wired to Albany for a serum. It was a race whether that serum would get there in time. Anthrax moves fast, and it was a race —an express train against the old Grim Reaper. There was a man with a car at the station at two o'clock in the morning to get it out of the mail-bag. The boy was nearly dead. The Old Boy with the Scythe was right outside. But the serum had the pull, and it saved the boy's life."

Laboratories for public health diagnosis should be multiplied not only for the purpose of aiding the physician's' diagnosis, but also as a convenient depot for the distribution of the various vaccines and serums used in the cure and prevention of disease.

WOULD IT PAY?

According to Louis I. Dublin, Statistician of the Metropolitan Life, six billion dollars ($6,000,000,000) a year could be saved through the application of modern preventive medicine and public health measures in the United States, and the Second Vice-President of the same company announces that $53,000,000 had been saved in death claims among the industrial policy-holders of the company in the quarter of a century ending with 1926, through the public health work which has been done among the policy holders. Computing the population of the United States at 110,000,000, and that of Ontario at 3,000,000, the comparative saving of the Province through the application of preventive medical and public health measures would reach the enormous annual sum of *nearly $164,000,000.*

The same company advertises extensively that in the last ten years it has spent $2,000,000 in public health work and that this expenditure has paid 200 per cent!

Two per cent of the population of Ontario is ill all the time and unable to work. This means that 6,000 individuals are constantly suffering from disabling illness. Ontario has a large industrial population, and the loss of time involved through illness of the male population is approximately 5,000,000 days' work, at least 50 per cent of which is preventable.

We have too much of the luxury of sickness in this country. It is estimated that the cost of sickness in the whole of Canada reaches the enormous sum of $300,000,000 annually. No less than 34 per cent of our entire mortality is of external origin and therefore preventable. From 45 per cent to 60 per cent of illness is preventable. The total number of hospitals, asylum and sanitarium beds is about 60,000 with a capital investment of nearly $200,000,000 and an annual expenditure for maintenance of from $50,000,000 to $60,000,000. A large proportion of hospital sickness and sickness outside hospitals is cared for by the charity of the medical profession. Sickness originates and maintains a large proportion of poverty.

A review of these facts proves, without contradiction, that prevention of disease pays.

No system of public health service can be effective which fails to provide for continuous, well-trained local health services in areas of suitable size, and adequate financial support. Moreover, a system of the kind must have the moral support of the community and of the medical profession, and such support can only be secured by education of the public in health, and sustained by the results available only under a first-class service.

For the last six or seven years the writer has taken every opportunity of advocating the establishment of whole-time health organizations for the Province of Ontario. No important advancement in rural health conditions, in rural medical school inspection, nor in any of the great problems of local public health administration may be expected until some scheme of the kind is in successful operation.

Milk in Relation to Health*

DR. H. M. SPEECHLY,
President of the Winnipeg Health League

MILK is one of the best and cheapest foods, and is used by nearly everyone in civilized communities every day. It is necessary for growing children because it contains a wonderfully balanced proportion of protein, the muscle-forming substance; fat, the heat-producing material; sugar, the energy producer; and minerals, notably lime, for the formation of teeth and bones. It also contains the vitamins, A, B, & C. Therefore the child or adult who is taking a quart a day is not overdoing it, provided the milk is pure.

Impure milk causes more sickness and death than any other class of food. Consider these facts: 80 per cent of deaths in infants from diarrhoea are caused by impure milk which also is responsible for many epidemics of septic sore throat, scarlet fever, diphtheria and typhoid. In addition, 25 per cent of all cases of tuberculosis in children under 16 years of age are caused by impure milk from tuberculous cows, while from 18 per cent to 25 per cent of deaths under five years of age from tuberculosis are from the same cause. Is it any wonder that every far-seeing medical officer of health demands a proper milk ordinance in order to protect the health of the people under his care, and especially the children?

Now, milk is the only animal food that is used habitually uncooked and is a most difficult food to produce and distribute safely, because *from the cow to the consumer there are from 20 to 25 chances of making it impure.* In most instances it is the human factor that introduces the impurity.

Impure milk causes 80 per cent of the deaths of infants from diarrhoea, did I say? Here is an illustration of what has happened thousands of times on this continent. Several years ago Sir Wm. Osler, the great Canadian and international physician, was visiting his old Canadian home, when he met a lady whom he knew intimately in their young days. In the course of conversation he learned that she was married and had had seven children, but that only two were living. He inquired sympathetically why these children died. She replied, "From cholera infantum, but, though it has been a sad blow, I am resigned to the will of Providence." Osler looked at her keenly and earnestly, and said, "Mary, Providence had nothing to do with it. Impure milk was the cause of that diarrhoea."

Let me draw a few word pictures to show you how such a disease as typhoid fever is carried by milk. The well-known case of Regina College

*An address to Service Clubs.

in Saskatchewan in 1920 provides one of the saddest experiences of Westerners. Although considerable care had been taken to ensure a fairly clean supply of milk to the College, the dairy-man himself contracted typhoid fever, and before his case was diagnosed, he had infected at least 83 students, of whom nine died. Here let me quote from the 1926 Report of the able Medical Officer of Health of the city of Toronto, Dr. Charles J. Hastings:

> "Perhaps the most striking testimony which has ever been given this Dominion in favour of pasteurized milk is that of Dr. E. W. Stapleford, President of Regina College, at a public meeting called by the city council of Regina a few months ago to hear the views of citizens and persons interested in dairying, previous to its decision being reached as to the passing of a compulsory pasteurization by-law in the city of Regina.
>
> "Dr. Stapleford described how the directors of the college in their desire to supply a high grade milk for the resident students arranged to obtain the college milk supply, not from one of the city pasteurizing plants, but from a raw milk dealer who had an excellent farm a few miles outside of the city and who was willing to deliver it daily to the college. The directors of the college were not then educated in the matter of milk pasteurization as they are now, and Dr. Stapleford, in appealing to the council of the city and to the raw milk dealers present at the meeting, said: 'If you people here to-night had seen nine coffins being carried from Regina College, nine young men and women cut down on the threshold of their lives, and could realize the responsibility which we felt in having permitted the sale of raw milk in the college, you would never wish again to drink an ounce of raw milk.'"

Since 1916 four epidemics of typhoid in Winnipeg have been traced to the milk supply, the infection proceeding from human typhoid carriers. Recently two friends of mine, one a dentist and the other a business man, both anxious to supply their young children with good milk, used three small dairies purveying non-pasteurized milk, but had to discontinue that source of supply, because they found that the milk was too dirty to use and was produced in unsanitary surroundings. Again, a medical friend told me that he watched a milk vendor taking an unbottled milk supply round the Fort Rouge district. The man was anxious to keep his milk well mixed, so he pulled out from the interior of the van a stick with which he stirred up his milk. Supposing such folk who have a limited appreciation of what clean milk means allow persons sickening with sore throat, or the beginnings of scarlet fever or diphtheria, to handle the milk you and your children drink, what can you expect?

It seems only common sense that our milk supply should be protected, if possible, from these horrible infections and from barnyard manure, a very common impurity. We ought to insist on a Milk Ordinance for our com-

munity so that clean milk only should be supplied and that that clean milk should be made safe from tuberculosis, typhoid, scarlet fever, diphtheria and septic sore throat. Remember that no scientific process such as pasteurizing can be used to make dirty milk clean, but it will make clean milk safe. It is easy to find out whether milk is physically clean and free from dirt particles by using the sediment test, whereby the inspectors can exclude dirty milk entirely.

What classes of milk can be safely used by human beings? There are two classes—(1) certified milk and (2) pasteurized milk. Briefly, first, certified milk is produced from cows proved by veterinary tests to be free from tuberculous and other disease, not forgetting diseased teats and udders. The dairies must be kept scrupulously clean and free from flies and dust. The hind-quarters and tails of the cows must be kept clipped and free from dirt by careful washing before milking. The cows must be milked by workers who have bathed beforehand and are clad in clean white caps and overalls, and are free from communicable diseases and subject to frequent medical examination. All utensils must be properly sterilized and the milk must be cooled, bottled and sealed at a temperature not exceeding 50 degrees F.

Secondly, to make milk perfectly safe, the modern scientific method of pasteurizing milk is unrivalled. Milk already shown to be mechanically clean is heated to a temperature not lower than 142 degrees F. and not higher than 145 degrees F. and kept at that temperature all through for not less than 30 minutes. It is then rapidly cooled to 50 degrees F. or lower. It is then bottled and capped without the touch of human hands, ready for delivery. This renders the milk not completely sterile but it kills all the bacteria responsible for disease. The harmless bacteria which cause milk to sour, are not killed. Pasteurized milk sours 6 to 10 hours later than raw milk, which to the housekeeper is a distinct advantage.

But what about the vitamins A, B, & C? How does pasteurizing affect them? Scientific pasteurizing does not destroy vitamins A. & B. Vitamin C, the vitamin which protects against scurvy, is sometimes impaired, but that is of no real importance, especially as the amount of vitamin C, produced at different times, varies in the same cow, and because fruit juices will supply all of vitamin C, that is needed.

Let me repeat that only two classes of milk ought to be allowed in our city, either certified or pasteurized, as in Toronto and Saskatoon; and that pasteurization will not make dirty milk clean, but it will make clean milk safe. Pasteurization is a health measure because "no epidemic of disease has ever been traced to properly pasteurized milk" (U.S.A. Department of Agriculture).

What are the facts about the milk supply of Winnipeg? Two per cent of our milk is certified, fifty-seven per cent is pasteurized, forty-one per cent is just raw milk.

When will our next milk-borne epidemic come along?

Medical Aspects of Immigration*

DR. J. D. PAGÉ,
Chief, Immigration Medical Division, Federal Department of Health

I WISH at the outset of my remarks to thank this Conference for affording me the opportunity to say a few words regarding the medical aspects of immigration, which has been one of the prime interests of the Federal Department of Health since its inception in 1919.

The Immigration Act of Canada, which became law and was put into force at the beginning of the fiscal year 1903, provides for the medical examination of immigrants arriving at our ocean ports. For this purpose immigration medical officers were appointed whose work consists in endeavouring to detect those persons who come within the following "prohibited classes" set out in the Immigration Act:—

(1) Idiots, imbeciles, epileptics, feebleminded or insane persons—section 3 (a).

(2) Persons affected with tuberculosis or other contagious or loathsome diseases which are not curable within a reasonably short time—section 3 (b).

(3) Immigrants who are dumb, blind, or otherwise physically defective to a degree rendering them liable to become a public charge—section 3 (c).

(4) Persons of constitutional psychopathic inferiority—section 3 (k).

(5) Persons with chronic alcoholism—section 3 (l).

(6) Persons (other than those stated above) who are mentally or physically defective to such a degree as to affect their ability to earn a living —section 3 (m).

As we are now reaching the quarter of a century mark in the medical examination of candidates for Canadian citizenship, it seems fitting that the public should know something of what has been accomplished during the 25-year period in the matter of selection of the newcomers to our shores, and of the protective steps which have been taken to prevent the inflow of the mentally and physically unfit, in order that the standards of the Canadian people may not be lowered.

At the inception of this policy and for a few years following, while the total immigration at ocean ports had already reached the one hundred thousand mark per annum, at the important gateway of Canada, Quebec, through which port more than 75 per cent of the immigration enters the country, this responsible work was entrusted to two only part-time medical officers who conducted these medical inspections as a side line of their general practice. This measure was manifestly inadequate. The records show that

*Read before the Canadian Conference on Social Work, at Montreal, April 25, 1928.

for the first few years little attention was paid to anything more than to search among the foreign immigrants for the grave infectious eye disease known as trachoma.

In their hurry to have their ships reach Montreal with the least possible delay, steamship companies frequently availed themselves of the privilege of landing immigrants at such late hours in the day as to render it impossible to conduct a satisfactory medical inspection. It became apparent that an augmented staff of medical inspectors was needed. Accordingly, in the summer of 1906, the staff was increased to six members and put under the authority of the medical superintendent of the Immigration Hospital, who became the chief officer of the port staff as well as that of the hospital. This augmented staff carried on until 1912, at which time it was increased to eleven, still all part-time officers. But as the conditions under which they were compelled to do their work continued to be so unfavourable, scarcely better results were accomplished.

During the interruption of the flow of immigration caused by the Great War, every opportunity was seized to make representations to the authorities at Ottawa as to the necessity of having full-time men appointed to the service, in light of the clear evidence that men who had to depend more upon the revenue derived from their general practice than upon the remuneration received from the Government, could not have sufficient interest and give enough attention to the work to perform it approximately as it should be.

The overdue advent of the new Federal Department of Health after the war facilitated the introduction of the reforms which such an inadequate system demanded. These may be summarized as follows:—

(1) The establishment of suitable and definite hours to carry on medical inspection.

(2) The appointment of permanent full-time men through the Civil Service Commission.

(3) Co-operation with the Immigration Department in order to have the Immigration Act so amended as to provide for the mandatory assessment of fines against steamship companies for bringing to Canada immigrants of the "prohibited classes".

(4) Inducing steamship companies to pay better salaries to their ships' medical officers, so as to make it worth while for them to remain in the service with a full consciousness of their responsibility and the necessity of their co-operating with the Immigration Medical Service of Canada in reporting to the latter any case found on board coming under the Immigration Act.

(5) Holding conferences with ships' doctors and other officials of the steamship companies from time to time, in order to explain to all concerned the medical requirements of the Immigration Act.

(6) The appointment of a medical adviser to the Canadian Department

of Immigration in London, England, together with an assistant, who have since rendered splendid service.

(7) The organization of a roster of medical examiners in the British Isles in conjunction with the other British overseas countries for the examination of their respective immigrants, under the supervision of the London Medical Adviser and his assistant.

(8) Last, and perhaps the most important step of all, the establishment overseas of a compulsory system of medical inspection of *all* prospective immigrants prior to leaving their home, by Canadian medical officers of the Federal Department of Health. This scheme became effective as from February 15th of the present year.

While Canada has a good immigration law, after many years of endeavour to apply it at the wrong end, that is, on this side of the Atlantic, the results have been very disappointing.

As a result of the medical officer's certification in accordance with the Immigration Act, immigrants who on arrival are found to be mentally defective, suffering from certain chronic loathsome or contagious diseases, or affected with serious physical defects, may be refused permission to land. I may mention here that the medical officers of the Department of Health have no executive functions; they merely advise the Department of Immigration as to the health of the individuals; their admission or rejection rests entirely with the latter Department. From the necessarily cursory examination which takes place at the ports of landing, where the newcomers are passed through the inspection lines at the rate of some three hundred an hour, many defects are liable to escape the attention of the medical inspectors. The result is that many of those suffering from serious affections prohibited of entry under the law, have succeeded in slipping through and have later become public charges and eventually deported.

Such an outcome may be a serious matter to the persons concerned; having given up home and employment in their native land, their re-establishment on return may prove difficult. Prospective immigrants in recent years have been recommended, therefore, to present themselves for thorough medical examination to a doctor in their home district, selected from the roster approved by the Department of Health of Canada and already referred to, before taking definite steps toward migrating to this country. In the past, however, only in the case of unaccompanied women, children's immigration schemes, and Government-assisted passages to Canada has such medical examination been *compulsory*. The results which such examination has produced are very marked. A comparison of the official figures for 1926, the last complete period for which figures are avaliable, shows that out of approximately 95,000 immigrants arriving in Canada who did not undergo compulsory examination before embarkation, the medical line inspection at the ports of entry, which, as I have already stated, is not adequate for the detention of certain types of disease, eliminated only 28 or 0.03 per cent of

mental defectives, and 41 or 0.04 per cent under the head of chronic loathsome diseases. On the other hand, of the 20,000 assisted immigrants who underwent compulsory examination before embarkation, 150 or 0.75 per cent of the former group and 195 or 0.97 per cent of the latter group were certified as unfit and prohibited from entry into Canada. All things being equal, there is no particular reason why the percentage should be lower in the one case than in the other.

Besides the haste with which the medical inspection is carried out at the time of arrival, and which accounts for so few being held, there is also the fact that since the Immigration Act has provided for the mandatory assessment of a fine of $200.00 against a steamship company for bringing to Canada an insane or tuberculous person, for instance, those having most visible defects are now being refused permission to embark by the companies' own medical officers.

Either because the class of misfits who are successful in evading detection before they embark, or as they land, has become more numerous, or as a consequence of the increased activities on the part of municipalities in procuring their deportation, these deportations reached unprecedented figures during the calendar year 1927. By provinces these deportations were as follows:—

Prince Edward Island	1
Nova Scotia	4
New Brunswick	2
Quebec	26
Ontario	151
Manitoba	134
Saskatchewan	76
Alberta	70
British Columbia	57
Unclassified	69
Total	590

Of the above, 70 or 11.86 per cent were ex-Imperial soldiers with disability pensions of from fifty to one hundred per cent, and 50 or 8.47 per cent came forward as assisted passages.

The surveys which have been made of many public institutions of the country during the last few years, through the initiative of the National Committee for Mental Hygiene and the intensive study pursued by such social organizations as are gathered here to-day, have revealed the tremendous burden thrown upon the State by the filtering through the loose meshes of our inadequate system of medical inspection that has too long obtained. Criticism from many quarters has been heard periodically that our selective method was not all that could be desired. It was not until the last two or three years, however, that this criticism assumed a constructive character and was formulated in a concrete manner. This came as the result of discussions

which had taken place at the regular sessions of the Dominion Council of Health, the Interprovincial Conferences of Prime Ministers held in Ottawa, and of several important social agencies as well, and impressed upon the Federal authorities the necessity of taking radical steps to meet the situation.

Following several conferences between the Immigration and Health Departments, at which the question was discussed exhaustively, the Government approved the policy under which every prospective immigrant to Canada shall be examined by a medical officer as to his or her mental and physical fitness before permission to emigrate to this country is granted. For this purpose it was decided to appoint a number of Canadian medical examiners, and station them at key cities in Great Britain, Ireland, and on the continent of Europe. Under this policy, while admission to Canada would continue to be determined finally at the Canadian ports of arrival, no person would be permitted by our Department of Immigration to emigrate to this country until he or she had been examined and passed by an officer of the Immigration Medical Service, Department of Health. A maximum degree of weeding out of the physically and mentally unfit would thereby be attained, thus reducing to a minimum the possibility of rejection on this side.

After the principle of overseas medical examination was approved and adopted by the Government, a conference was arranged in July, 1927, at Ottawa between the two Departments and the steamship companies' Montreal executive officers. This conference was advised that it had been decided to replace the roster doctors by Canadian medical officers, who would examine not only prospective immigrants who were receiving financial aid from the Imperial or Canadian Governments, but all intending settlers to Canada.

In our tentative arrangements it was agreed to place our doctors in some ten strategic centres of the British Isles, such as Liverpool, Bristol, Birmingham, Glasgow, Aberdeen, Belfast, etc., also on the continent at the principal ports of departure, namely, Riga, Danzig, Hamburg, Paris and Antwerp, on the understanding that if some of these doctors required extra assistance at certain times, due to congestion, the Department would be prepared to provide same.

After an exchange of views and a full discussion, the steamship people declared themselves unanimously sympathetic to the scheme as outlined, and before we departed we felt that it would receive their whole-hearted co-operation.

The Canadian doctors went abroad in small groups and at intervals from the middle of October, 1927. They were advised to report to Dr. Jeffs, Chief Medical Adviser in London, in order to receive special instruction and training in their work before they were assigned to their respective posts. Dr. Clark, Assistant Deputy Minister, crossed over with the first group in order to help Dr. Jeffs complete the organization in the British Isles and on the continent. This involved months of hard work. The contingent of five additional medical officers who have sailed recently makes a total of twenty-

seven in all. These have all been placed in the principal centres from whence they will travel periodically to more than three hundred neighbouring towns on fixed dates, of which intending immigrants will be kept informed by either the booking agent or the immigration officials.

In those isolated districts where immigrants could not report for examination and return home the same day, some forty-five roster doctors have been appointed to cope with the situation.

From the foregoing it will be appreciated that the new scheme not only has the full support of the people of Canada, but was initiated with the approval of the steamship companies themselves. Moreover, the scheme was approved by the British Medical Association and by the British Ministry of Health, as may be seen from the following letter dated August 31st, 1927, signed by H. W. S. Ferris, Assistant Secretary of the Ministry of Health, and addressed to clerks of Councils in Great Britain:—

"I am directed by the Minister of Health to acquaint you that it has been decided by the Government of the Dominion of Canada, in conjunction with His Majesty's Government, to establish in Great Britain a Canadian Medical Service, under which the medical examination of prospective settlers in that Dominion will be carefully systematized and conducted free of charge. The present practice, under which the medical examination is conducted by private medical practitioners, who are not always familiar with the requirements of the Dominion authorities, has in some cases proved inconvenient. Moreover, the fact that the intending settler has at present to pay a fee for the examination has been found to act as a deterrent on migration, as many otherwise desirable settlers are unable to provide the fee or are unwilling to spend the money which will be wasted in the event of the medical examination being unfavourable. For these reasons the Canadian immigration authorities have decided to arrange for the medical examination in this country, by officers responsible to the Canadian Government, of intending migrants to the Dominion.

"With a view to diminishing as far as possible the inconvenience and cost to the intending migrants of attending for medical examination, it is proposed to hold the examinations in a number of different centres, and it has been suggested to the Minister that the county and county Borough Councils would in many cases be able to afford facilities for this purpose in premises belonging to them, and would, also, where this is not possible, be able to assist the Canadian Government by referring their medical officers to sanitary authorities and others who would be able to provide the required assistance. The examinations would be held at fixed intervals and at prearranged times and the persons to be examined would be notified by the Canadian immigration authorities of the time and place at which to attend.

"His Majesty's Government attach great importance to any arrangement which will have the effect of removing obstacles in the way of the settlement in the overseas Dominions of suitable persons from this country, and

it has long been their desire to relieve the intending settler of the expense of the medical examination required by the Dominion authorities.

"In these circumstances, the Minister is sure that he can rely upon the co-operation of the Councils and their staffs in the matter, and has requested the Canadian representative in this country, Dr. H. B. Jeffs, Chief Medical Adviser, the Canadian Building, Trafalgar Square, London, S.W.1, to communicate directly with the Clerks to the Councils in cases in which their assistance is sought."

Early in the present year we learned from reliable sources that systematic opposition to the Canadian scheme was about to be launched in the British press, which opposition we were given clearly to understand was inspired in the offices of certain of the shipping interests. This opposition appeared first in articles in *The London Times* and *Morning Post,* followed by similar articles in other British newspapers. This criticism was most unfair at such an early stage in the working of the new scheme, which could not possibly prove 100 per cent efficient at its commencement. Part of this criticism was that the new inspection scheme would prove a deterrent to immigration. In support of this, it was stated that immigration to Canada showed a decrease of 12 per cent in the first three months of 1928 over the similar period of 1927. While this is true, in arriving at the basic cause, it is important to note that Canada is not the only country so affected. As a matter of fact, there has been a general decline in the movement of immigrants from the British Isles during the first months of the present year, as compared with the same months of 1927. This may be seen from the following official figures covering the countries of Australia, New Zealand, and United States:—

	1927			1928			Per cent.
Migrants to	Jan.	Feb.	Total	Jan.	Feb.	Total	decrease
Australia (Asst'd)	3,233	2,670	5,903	2,313	1,993	4,306	27%
New Zealand „	792	667	1,459	251	246	497	
United States	2,042	3,361	5,403	1,328	2,788	4,116	24%

If the newspaper opposition referred to were an echo of British feeling in the matter, it is relevant to ask why a similar sentiment was not aroused some years ago at the time the United States adopted a similar scheme for that country.

While it was not expected that at its inauguration the new service would be fully efficient, having regard to the fact that the appointees are new men, inexperienced in the examination of immigrants in accordance with the provisions of the Immigration Act, which may be regarded as a special branch of work, the following figures (see next page) are evidence of the good results which have been achieved so far. In studying these figures it should be remembered that while the system did not come into force until February 15th last, from December 1st, 1927, intending immigrants were given the option of being examined by Canadian doctors:

SUMMARY OF EXAMINATIONS

Total examinations:

December, 1927		1,928	
January, 1928		5,074	
February, 1928		11,306	
			18,308

Total rejections:

(a)—Mental cases	December	22	
	January	40	
	February	59	
		—121	
(b)—Loathsome and contagious diseases	December	24	
	January	42	
	February	75	
		—141	
(c)—Physically defective	December	59	
	January	197	
	February	230	
		—486	
(k)—Constitutional psychopathic inferiority	December	11	
	January	28	
	February	39	
		— 78	
(l)—Chronic alcoholism	December	Nil	
	January	1	
	February	Nil	
		— 1	
(m)—Physically and mentally defective to lesser degree	December	6	
	January	77	
	February	6	
		— 89	
			— 916

While we are of the opinion that the medical inspection cannot but improve materially as the months go by, if after a reasonable time this improvement does not measure up to our expectations, consideration may be given to the possibility of employing more roster doctors under the direction and supervision of Canadian medical officers stationed at key centers. But in fairness to all concerned, it would be premature to contemplate any modification of the present scheme until such time as it has been given a thorough trial.

THE CONFERENCE AND 17TH ANNUAL MEETING
OF THE
CANADIAN PUBLIC HEALTH ASSOCIATION
MEETS IN
WINNIPEG, OCT. 11TH—13TH, 1928

Queen Alexandra Solarium

H. E. Young, M.D., C.M., LL.D.,
Provincial Health Officer, British Columbia

STARTING in 1922 on the strength of an appeal from the mother of a crippled child, the Women's Institutes of British Columbia initiated the use of helio-therapy for crippled children in Canada. An active campaign for a building fund was authorized on February 25th, 1925, and the first patient was admitted to the Queen Alexandra Solarium on March 1st, 1927.

The building is situated on the west shore of the Saanich Inlet, thirty miles north of Victoria, and is easily accessible by train or stage. It is well protected by a shoulder of mountain on South Salt Spring Island on the north, and the Malahat shields it from the south-west winds. To the east and west there is no obstruction whatever, but a full exposure to the sun's rays from early morning till sunset. The accompanying picture gives a good idea of the type of construction.

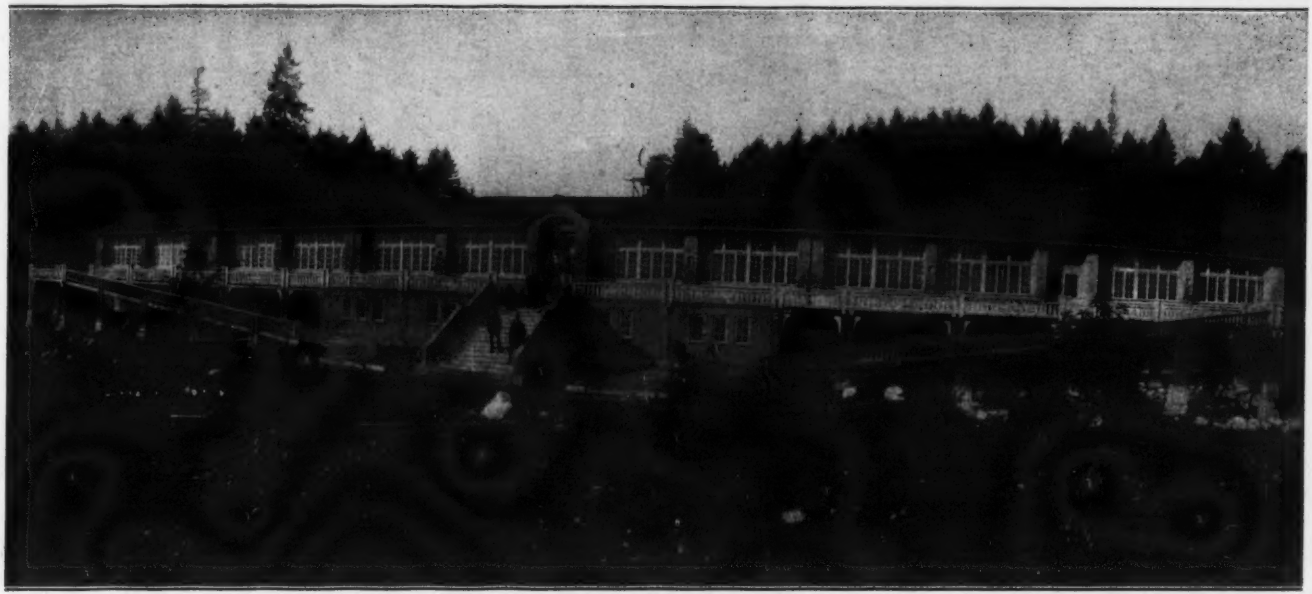
On the south-west corner of the building is an enclosed verandah seventy feet long and fourteen feet wide with large bay windows and an open fireplace. This room is fitted up with a blackboard and individual locker-seats for each child.

A concrete salt-water swimming-pool, having a floor space of 2,800 feet, was completed in September. It is located on the beach and is automatically filled at high tide and can be drained at low tide. It provides excellent bathing and swimming facilities without danger to even the smallest of the children. Carefully graded concrete runways for the easy transport of helpless cases connect the pool with the main building.

Ultra-violet-ray lamps, the gift of an anonymous donor, were installed at a cost of $800.00 in December, 1927.

Since March 1st, 1927, eighty-five children have been admitted and forty-four discharged. From early in July, 1927, the Solarium has had under daily treatment from forty to forty-five children. Many of these cases will require prolonged treatment and occupy beds for months and in some cases for two or three years.

The Department of Education of the British Columbia Government opened a school at the institute on March 14, 1927, and appointed a teacher. Twelve pupils were enrolled and the highest number on the school register for the year has been 35. All the subjects set out in the Public School Course of Studies are given. It is very like teaching a procession, as many of the bed pupils have to be visited. All are, however, wheeled into positions close



The building is of the bungalow type with a total length of two hundred and forty feet, an average width of fifty feet, and faces east, slightly angled to the south. On the main floor are three ward units (which are separated by folding sliding glazed doors) providing a total accommodation for about forty-five beds and cots. A special feature of these wards is the window arrangement in front, the windows being so planned that all may be opened and folded back out of the way, thus providing an open-fronted effect whenever desired. Three double doors give access from these wards to the open verandah the entire length of the building and twelve feet wide. Sloping ways are provided from the verandah down to the garden in front of the building.

to the others who sit at the tables. The hours devoted to teaching are adapted to suit each individual case. All the children attend school morning and afternoon. After the afternoon play hour, the children are read nature-study and other stories.

From the beginning the children have been found eager to learn. Some had been sadly neglected, having much less than average knowledge; some have less than average intelligence; but with individual attention it is marvellous how most of them progress despite their handicap. Given opportunities many of the children would prove up to the standard, and in some instances show signs of even surpassing in intelligence and capability the average normal child.

The majority are remarkably quick and nimble in working with their hands. Upon receiving material, left over from the Victoria Summer School, handwork was introduced. The children were very enthusiastic and turned out many fine little Indian baskets which were sent as gifts at Christmas to their parents. It is hard to keep up with their demand for "something to make". The sums of money given by a kindly and philanthropic person greatly facilitated this work.

As happiness and contentment are looked upon at this institution as very important factors in the cure or correction of the various physical disabilities, the daily routine has been planned accordingly. For occupation the up-children are given certain work such as care of the bed-children's toys, fetching and carrying for the nurses and helping generally morning and evening. School, which occupies five hours daily, includes ordinary lessons, physical drill, singing and hand-work. Every child has one and a half hours' rest in silence from noon to half-past one o'clock daily, the older children being allowed their story books, and the little or delicate ones being encouraged to sleep. From three-thirty to six-thirty, the children may amuse themselves in their own way and, provided they ask permission and keep in bounds, the up-children are encouraged to play out of doors in reasonably fine weather. From May till late September, sea-bathing and boating were the great recreations, and a boat, the "Elk", the generous gift of the Elks' Club, was much in demand.

In the library there is a splendid selection of books suitable for all ages, and each child may have a fresh book on returning the finished one.

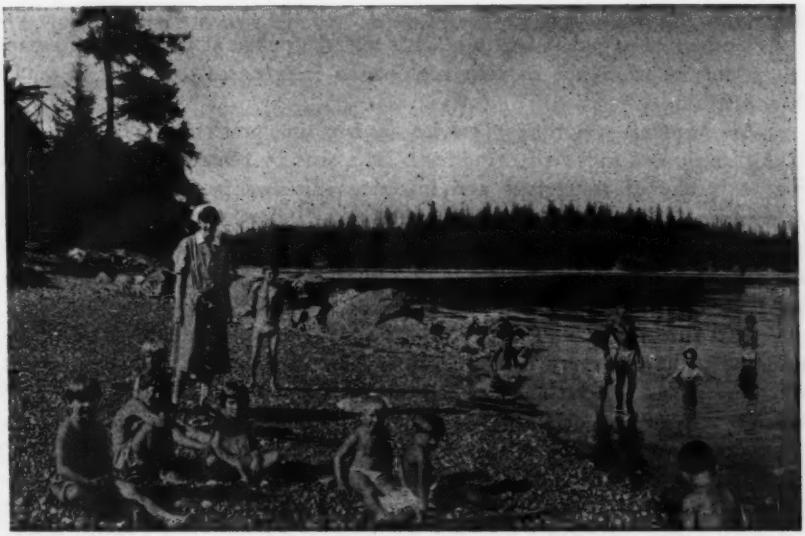
Owing to the appointment of a fourth assistant nurse it has been possible to establish a kindergarten for the children between two and six years of age. This has been most satisfactory.

The ideals for which the Queen Alexandra Solarium has been established may be enumerated under three headings:—

1. The prevention of illness in delicate children.
2. The restoration to health and physical fitness of children crippled by illness, accident or from birth.
3. The education of the crippled child undergoing treatment.

The great Dr. John Hunter has been quoted as saying that the most important contribution ever made to surgery was the statement that "restoration to health is effected by powers inherent in the living tissues of the patient." The key-note of the treatment in the Solarium is to give these powers in the living tissues the greatest chance by the use of sunshine, fresh air, sea bathing, simple food and suitable exercise.

While our knowledge of the effect of the rays of the solar spectrum is at present very limited, we are in possession of certain well established



IN THE SUNSHINE AT THE BEACH.

and definite facts. Since 1893 when Finsen of Copenhagen first demonstrated the value of light rays in the treatment of tuberculous skin diseases, great progress has been made, until to-day we are justified in establishing the Solarium for the treatment not only of surgical tuberculous diseases, but of the many conditions of ill health to which children are more especially liable.

The value of the carefully graduated sun bath, combined with exposure of the whole body to gentle currents of air, has, in the hands of Sir Henry Gauvain at Alton, England, and Dr. Rollier at Leysin in Switzerland, produced results which can but encourage us to a further use of these remedies so bountifully provided by Nature.

Three years ago the Queen Alexandra Solarium was but an idea; to-day it is an established institution in Canada with, I am sure, a great future of useful work in the years to come.

The Veterinarian and Public Health

DR. M. BARKER,
Chief Inspector, Health of Animals Branch, Dominion Dept. of Agriculture, Regina

THIS short paper has been prepared with the object of bringing to the attention of public health officials and the public at large the important service which the modern veterinarian is prepared to render in public health work.

An adequate veterinary service assists in protecting public health both directly and indirectly. Indirectly, it assists by controlling and eradicating outbreaks of contagious and infectious diseases in animals which are communicable to man. Diseases such as glanders, anthrax, rabies, etc., would soon become a serious menace to human health if allowed to go unchecked in animals. The direct protection which the veterinarian is prepared to give is mostly in connection with milk and meat inspection.

In the matter of milk production, probably no one will dispute the importance of having every cow producing milk for human consumption tested for tuberculosis, and yet only a small percentage of the cows in this province from which milk is obtained are tested. Conditions are improving in this respect and more of the smaller towns are requiring the tuberculin test of dairy herds. However, in view of the importance of this work progress is regrettably slow. Pasteurization properly carried out gives protection, but this only covers the larger centres; the country districts and smaller points are not reached. Without raising the question as to the percentage of tuberculosis in human subjects which is of bovine origin, we know that the figures are such as to indicate that more active measures are desirable in order to eliminate this source of infection, particularly in country districts and smaller hamlets.

In addition to the tuberculin test, all cows producing milk should be given a careful physical examination periodically by a veterinarian. This important detail of milk inspection is very much neglected, particularly so in herds supplying milk to pasteurizing plants. Our neighbours to the south evidently realize the importance of this, for in the regulations made under the Import Milk Act, which is just being put into force, they require that all cows, in herds from which milk or cream is secured by pasteurizing plants for entry into that country, must be physically examined annually. The only cow

*Address delivered at the Convention of Saskatchewan Health Officials' Association at Hotel Saskatchewan, Regina, October 28th, 1927.

that is fit to produce milk for human consumption is the cow in good health as determined by competent examination.

In meat inspection, a public health measure coming within the sphere of the veterinarian, we are making no progress whatever. We are just where we stood twenty years ago. In fact, Moses had a better system of meat inspection in his time than we have to-day. Just where to place the responsibility for this state of affairs may be difficult to decide, but one thing is certain, there is little or no activity whatever on the part of public health bodies to provide a remedy. When we consider that no city or town in the Province of Saskatchewan has any form of meat inspection, it is time that some movement was undertaken to improve the situation. Two cities in the province receive some protection in this matter due to the fact that abattoirs under Federal inspection are located in them and part of the meat sold locally is from these inspected establishments. Meats shipped into the province are inspected, and any meat shipped out of the province is also inspected, but as we are a large stock-producing province the amount of meat shipped in is limited; consequently, very little of the total volume of meat consumed receives any inspection. It is not claimed that meat inspection is the most important thing in public health work, but as meat is one of our main articles of food its production merits much more attention than it is at present receiving. According to the last report of the Veterinary Director General, who has charge of the Health of Animals Branch of the Dominion Department of Agriculture, which administers the Meat and Canned Foods Act, the entire carcasses of 17,078 cattle were condemned as unfit for food in the various abattoirs under Federal inspection in the Dominion during the year ending March 31, 1927, the percentage being 1.54. In addition to this, a large number of parts were condemned as unfit for food. The percentage of condemnation in sheep and swine is somewhat lower. There are sixty different diseases in the list shown as having been encountered during the year. Our live stock in Canada is as healthy as that in any part of the world, but notwithstanding this there is still the need for meat inspection.

The veterinarian is the guardian of the nation's wealth invested in live-stock, and he is also one of the guardians of the public health. In neither, however, are his services sufficiently appreciated or taken advantage of to the extent that they should be. The veterinarian suffers from lack of publicity, and very few people realize what he is prepared to do, or for that matter what he is doing. No community should be without the services of a veterinarian. In his absence, they pay over again for the services he could render in the losses they suffer and which he could assist in preventing. As well as being more prosperous, they would probably enjoy better health.

Winnipeg Invites You

WINNIPEG as the convention city for the 17th annual meeting of the Canadian Public Health Association is especially attractive, not only to those interested in public health but to all Canadians. Lying at one end of Ouinnipeg of the Crees, the city has an historic setting. Old Fort Garry's Gateway and Lower Fort Garry, the first limestone building in the West, still stand as monuments to the memories of the days of the Red-River cart and the buffalo. It is but yesterday, a scant fifty years ago, when an occasional house and wigwam marked the spot where to-day stands a city of over 300,000 population, solidly built on modern lines.

In Winnipeg wide avenues, lined on either side with stately elms and maples, present a vista that is unexcelled in many older cities. Town planning has been carefully considered. One of the latest developments in making Winnipeg the City Beautiful is the construction of a broad approach to "the capitol." On this approach a war memorial is to be built. The Parliament Building is a magnificent structure, considered to be one of the architectural gems of the century. On the banks of the Red River stands the imposing cathedral of St. Boniface, occupying the site of the ancient Roman mission.

The City Hall, the Law Courts and numerous tall office buildings mark the sky-line of the business section of the city.

Winnipeg has thirty-four parks. The largest is "'Assinaboine" with attractive driveways, flower-beds and playgrounds. Kildonan Park is a wide expanse of hill and dale which has been preserved in all its natural beauty.

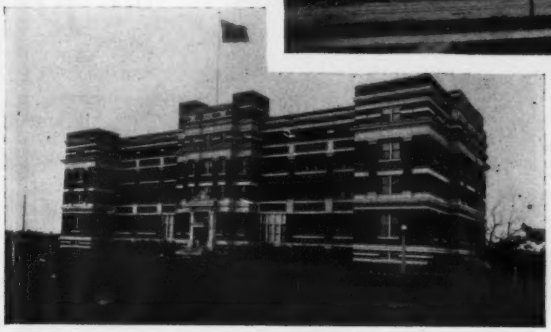
The members of the Association will be especially interested in visiting the Department of Health of Manitoba under the Honourable Dr. Wm. Montgomery, Minister of Health and Welfare. The Department is housed in spacious quarters in the Parliament Building. In the City Hall will be found the Department of Health of the City, with Dr. A. J. Douglas as Medical Officer of Health. Winnipeg may well be proud of its splendid Health Department. Outstanding amongst the voluntary agencies is the Winnipeg Health League, with Dr. Speechly as President and Dr. Davidson as Executive Secretary and Director. This unique organization has been established to strengthen the hands of the city and provincial Departments of Health by assisting in the education of the public in health matters.

From the medical standpoint, Winnipeg is an outstanding centre. Eight hospitals care for the needs of the city, including the Winnipeg General, Misericordia, St. Boniface and the special hospitals, the King George Isolation and the King Edward Sanatorium.

Winnipeg promises you a most enjoyable time.

In Winnipeg

MISERICORDIA HOSPITAL



KING GEORGE ISOLATION HOSPITAL

WINNIPEG GENERAL HOSPITAL

ST. BONIFACE HOSPITAL

CHARLES MAGEE ANDERSON
1891–1928

One of the best known and most prominent of the members of the medical profession engaged in laboratory work, passed away on July 18th at the early age of thirty-seven years. The news of the death of Dr. Chas. M. Anderson, Director of Laboratories, Department of Health of Ontario, was received by his fellow physicians throughout the province and his many other friends with the deepest regret. Dr. Anderson was a native of Ottawa, the son of the late William Anderson and Mrs. Anderson. He received his medical education at McGill University, graduating with the degree of M.D., C.M., in 1915. Immediately following his graduation he joined the Imperial Forces and served throughout the war as Medical Officer with the Royal Sussex Regiment. On his return he took post-graduate work in public health at the Johns Hopkins University, receiving the Certificate in Public Health. In 1920 he was appointed Director of Laboratories of the Provincial Board of Health, including not only the direction of the central laboratory but of the various branch laboratories which had been established throughout Ontario. Under Dr. Anderson's guidance, the work of the laboratories grew rapidly and the extent of the services rendered was steadily increased. No one who had the privilege of knowing him and of knowing that deep sense of responsibility which he felt to physicians and to patients ever wondered why the work of the laboratories had expanded so greatly. It is because of his devotion to his work, his unswerving loyalty to the physicians whom he served, and above all his love for the unseen patient who might be aided by his laboratory skill that his name will long be cherished.

To Mrs. Anderson and his two young daughters and to his brothers and sisters our Association offers its deepest sympathy in their irreparable loss.

Editorials

NOW IS THE TIME

MID-SUMMER is not the time of the year when we usually think of diphtheria, yet in the light of our knowledge of the seasonal occurrence of this disease, this is the proper time to commence the immunization of children against this disease. The development of the immunity by the child who has been "vaccinated" against diphtheria is a gradual process requring several months, and when one considers the fact that the greatest number of cases of diphtheria occur in the fall months, particularly in November, the wisdom of planning now for the protection of young children is evident.

The control of diphtheria is too often considered by physicians and by parents to be the responsibility of the Health Department. If an epidemic occurs in a school, reflection is cast on the department concerned, but any such reflection should be shared by the physicians and by the parents in the community. Epidemics of this disease will not occur if young children are given protective treatment. The Health Department can supply the necessary information and the vaccine (diphtheria toxoid). Home and School Clubs, Service Clubs and other local organizations can greatly assist in bringing the facts to parents. But it rests with the physicians of the community to urge the importance of having every young child protected and to arrange that in their private practice no young child will be overlooked. It is the duty of the community to see that provision is made for the treatment of any children not having a family physician, and to arrange with the profession for such services.

The value of diphtheria toxoid, which is used as the vaccinating agent, has been thoroughly established and more than a hundred thousand children have been treated this year in Canada. The need for this protection is urgent. A statistical study of diphtheria in Ontario covering the past 45 years has just been completed in the School of Hygiene, University of Toronto. This study has shown that diphtheria caused more deaths than any other disease among children in the age-group of 2-14 years and that this was true not only 45 years ago, but even in the year 1925! We are apt sometimes to discount general statements, but a more detailed account of the findings of this study is most convincing of the real menace of diphtheria.

SAFE WATER ON TRAINS AND LAKE STEAMERS

THE Department of Health, Canada, now known as the Department of Pensions and National Health, deserves much praise for the effective steps taken to ensure to travellers drinking water which is free from contamination and safe to drink.

The first step was the replacing of the old, common, tin cups with sanitary individual paper cups, and now this replacement is general throughout Canada. The supervision of the quality of the water, however, is a much more difficult problem, for it involves the co-operation of the various Provincial, the Dominion and the United States Governments. Fortunately, however, the Department of Health, Canada, has been able to join hands with the officers of the United States Public Health Service, who are charged with the responsibility of inspecting the water supply of interstate trains, including those crossing the international boundary, and of boats plying on the international boundary waters. This co-operation between the Department and the United States Public Health Service is making possible an adequate system of supervision and control of drinking water supplied to travellers on the majority of trains and steam boats.

A marked reduction in the number of cases of typhoid fever contracted on steamships on the Great Lakes has resulted already from the measures taken, and with the increasing co-operation of the steamship officials, not only in respect of the regulations for safe water but also of the regulations for the disposal of sewage, a further reduction can be anticipated.

Indirectly, the disapproval by the Department of several municipal water supplies, as sources for refilling the tanks of drinking water on trains, has resulted in action being taken by those municipalities to improve their water supply and to render it safe by proper treatment. The co-operation of the Provincial Departments of Health and the technical work carried out in their laboratories have made possible the accomplishment of a greatly improved system of control in a brief period of years.

THE CANADIAN PUBLIC HEALTH ASSOCIATION
17TH ANNUAL MEETING AND CONFERENCE
WINNIPEG, OCT. 11—13, 1928

EPIDEMIOLOGY AND VITAL STATISTICS

A. C. Jost, M.D., and Neil E. McKinnon, M.B.

Annual Report of the Department of Health—New Brunswick

IN the tenth annual report of the Chief Medical Officer to the Minister of Health for New Brunswick for the year ending October 31st, 1927, the existing conditions in the Province are plainly set forth by the Chief Medical Officer, Dr. G. G. Melvin. Where good results have been achieved due credit is given to those responsible. Where failure to apply proven methods still results in a high infant mortality or a high typhoid fever death rate, the conditions accounting for such are plainly stated.

Although the statistical data show a decided increase in morbidity and mortality from notifiable diseases, Dr. Melvin points out that part at least of the apparent increase is due to better reporting. Tuberculosis with 394 deaths accounts for nearly seventy per cent of the deaths in this group. Typhoid fever caused 241 cases and 28 deaths—an increase over the past year.

Statistical Comment

With an estimated population of 407,000 for the year 1926, (that of the year 1925 being estimated as 402,500) the number of registered births, 10,340, is equivalent to 25.4 per thousand of population. There is a probable error of 0.16. The rate for the year 1925 was 27.2 with a probable error of 0.17. The difference between the rates of the two years, (1.8 with a probable error of 0.23) is of statistical significance, the inference being that New Brunswick is participating in the experience so generally being reported, an experience characterized by lowered birth incidence. It is interesting to note that the average age of the New Brunswick mother is about 27 years and 9 months. In Nova Scotia, with a birth rate of about 20, the average age of the mother is 28 years and 5 months.

The *crude death rate,* calculated on the occurrence of 5,002 deaths, is 12.28, with a probable error of 0.11. Since the factor of correction of the New Brunswick population as obtained from the 1921 census figures was 0.92, calculated against the death rates of England and Wales for the period 1881-1890, the crude death rate, 12.28, is materially lowered by standardization, becoming 11.29.

The average age at death for the year was about 42.9 years, and the age on either side of which half the male population died was about 51. The age on either side of which half the female population died was about 49. This is somewhat unusual, since it is usually greater than it is for males. The explanation is probably connected with the fact that there is an unusual condition, in that the female death rate is greater than the male rate in an unusual number of

age groups. For the years 3 and 4, and for the age groups 5-9, 15-19, 20-29, 30-39, and 40-49, mortality among the females was greater than among the males. The female death rate for all ages was about 11.9, however, as opposed to the male rate of 12.5. So far as general mortality is concerned, there was little difference between the rates of 1925 and 1926.

The infant mortality rate for 1926 was 105.9, with a probable error of 2.04. That of the former year was 100.1, the probable error being 1.93. The difference between the two was therefore 5.8, with a probable error of 2.81, and was therefore not mathematically significant, being only about twice the probable error.

With tuberculosis deaths, all forms, totalling 417, a rate of 102.1 was experienced. The rate for the pulmonary form of the disease was 85.4. There is a slight but insignificant rise over the rate of the former year. A cancer rate of 81.3 indicates a slight improvement over that of the former year, when the rate was 82.8.

A. C. Jost.

The Causes of Illness in the Different Age Groups

From data collected in the usual routine of public health work, it is not possible to know at all accurately the amount of illness in a community, or the nature of that illness. In fact, the reported cases of notifiable diseases do not show accurately the occurrence of those diseases, so inadequate is notification. Probably the general physician in a small isolated village or country corner is the best qualified to give an estimate of the true state of health of his community. His knowledge will be wider than his practice but will not be complete. In order to get a more accurate knowledge of the nature and occurrence of sickness which a community experiences, the United States Public Health Service under the immediate direction of Mr. Edgar Sydenstricker, Statistician, has made detailed observations in a city of 30,000 population over a period of twenty-eight months. The information was obtained largely from housewives by personal visits of the investigators. Where a physician had been called, his diagnosis was obtained. Records of absence from work or school served as a check on the data. While no sharp line can be drawn between illness and health, the sickness recorded was generally sufficient to render the patient an invalid or semi-invalid for at least a day. The fact that a very large part of the recorded diagnoses were confirmed by physicians is significant. The various complaints, such as headache, rheumatism, indigestion, sore throat, etc., have been carefully analysed and given due consideration.

The analysis of the data, while not showing any marked divergences from what might be expected, gives statistical proof of certain conditions previously accepted on wholly inadequate evidence. It reveals, too, for this selected community at any rate, and for that period, characteristics of different age groups in regard to disability and illness. In the age period 15 to 24, young adult life, less illness was found than in any other period. In spite of this fact appendicitis and pulmonary tuberculosis were more

prevalent in this age group than in any other. Headache, without any other related conditions, was found most often in the 10 to 14 age group. Respiratory diseases, colds, bronchitis, influenza and pneumonia, throat and tonsil conditions, formed by far the largest group, over fifty per cent in fact, in each age group. Infectious diseases were relatively important in early life, while nervous, digestive, circulatory and general diseases assumed more relative importance in later years. External causes were responsible for a definite part of the disability in all age groups. Accidents causing disability, not necessarily death, occurred most frequently in the 5 to 14 age group and in middle age. This is, as stated in the article, in contrast to the usual age curve for mortality from external causes which shows a higher peak in the age group under 5 years than in any other period until old age when it rises precipitately. When the accidents are analysed further cuts and burns are found responsible for the larger part of accidents in the school children. The curve for automobile accidents shows three peaks, one in the age group 5 to 9, one slightly higher in the 15 to 24 period, and the highest in the 45 to 64 period. The table below of the age-specific incidence rates for measles, whooping cough and chickenpox shows the occurrence of these diseases in various age groups during the twenty-eight months. It is to be noted that these diseases were "quite prevalent" during this study.

This shows very clearly and authoritatively the force of the attack of these diseases in early life. Whooping cough, even in morbidity, strikes hardest in the first year, as it does in mortality. Measles shows a higher attack rate somewhat later, though mortality statistics show the most deaths in the first two years. Chicken-pox has a distinctly lower attack-rate than measles or whooping cough and the brunt of its attack is later.

INCIDENCE ACCORDING TO AGE OF MEASLES, WHOOPING COUGH AND CHICKEN-POX

(*Hagerstown Morbidity Investigation*)

ANNUAL RATE PER 1,000

Age	Measles (568 Cases)	Whooping Cough (374 Cases)	Chicken-pox (232 Cases)
Under 1 year	118	155	45
1 year	160	88	39
2 years	153	126	63
3 years	197	68	80
4 years	153	137	78
5 years	165	96	80
6 years	168	95	90
7 years	144	68	59
8 years	82	41	26
9 years	43	26	7
10 to 14 years	16	7	6
15 to 24 years	1.6	1.2	—
25 to 44 years	.4	.9	.2
45 to 64 years	—	1.2	—
65 years and over	—	—	—

Septic Sore Throat

In Lee, in the State of Massachusetts, a city of 4,000 population, an extremely severe epidemic of septic sore throat has occurred, there being over 650 cases and 28 deaths. The source of the epidemic was milk, apparently infected by two milk handlers who were sick a few days previous to the outbreak.

Rabies

The first death from rabies in Ontario in many years occurred in July. The victim, a child 4 years of age, was scratched or bitten about two months ago by a cat, not then known to be rabid. No anti-rabic vaccine had been given as the biting was not reported to a physician.

REPORTED CASES OF CERTAIN COMMUNICABLE DISEASES IN CANADA BY PROVINCES—JUNE, 1928

Diseases	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
Diphtheria....	7	7	189	216	66	43	15	89
Scarlet Fever..	33	56	276	378	152	94	108	26
Measles.....	116	14	555	2,403	499	452	93	57
Whooping Cough.....	22	4	18	310	33	32	14	16
German Measles.....	12	—	(*)	15	(*)	24	5	7
Mumps.....	2	—	(*)	1,063	40	272	27	63
Smallpox.....	—	7	98	41	10	31	10	14
Cerebrospinal Meningitis..	—	1	—	6	1	—	2	—
Anterior Poliomyelitis	—	—	—	1	—	—	2	4
Typhoid Fever	1	12	43	38	4	5	15	7

*Not reportable.

INDUSTRIAL HYGIENE

F. G. Pedley, M.B., D.P.H., and J. G. Cunningham, B.A., M.B., D.P.H.

The Common Cold as a Factor in Industrial Absenteeism

Of the data that are gradually accumulating on industrial morbidity none is more valuable than that provided by the Edison Electric Illuminating Company, Boston, which are being published from time to time in the Public Health Reports of the United States Public Health Service. Unfortunately, the important feature of this plant's records, namely, that they include all lost time of one day or more, is precisely the feature that makes them incomparable with other plants' records, which are based on reports of the sick-benefit associations and only include sickness of one week's duration or longer. In view of the common experience that short period sickness (*i.e.* sickness of less than a week) causes at the very least 50 per cent of all lost time, it is clear that the picture of industrial wastage from sickness presented by sick-benefit associations is a very much minimised portrayal of the actual situation.

The Edison figures are accordingly of unique importance, but in drawing deductions from them, it must be remembered that the firm's policy is to pay full wages to sick employees from the first day of absence up to fifteen weeks. From this angle, again, then, their records are incomparable with those of other plants where wages are not paid during sickness. But waiving comparison, and bearing in mind the effect of the sickness policy, the data that are being brought to light are highly significant and merit very careful study, especially as the majority of the sickness cases are seen and diagnosed by a physician within 36 hours of the onset.

Perhaps the most striking finding that emerges is the extraordinary wastage caused by the common cold. The general prominence of the respiratory diseases as the most potent factor in disability, causing something in the neighbourhood of half all long-period sickness absence, has been noted frequently of late from the experience of sick-benefit associations, and is seen, by the Edison figures, to apply to *all* sickness absence, and now, as a further step in analysis, the Edison records show that actually 71 per cent of disabling respiratory cases are "colds and other diseases of the nasal fossae". This means that about 35 per cent of all disability is due to colds. The novelty of the finding is seen by comparison with the experience of sick-benefit associations which showed that their respiratory disability was made up as follows:—

	Respiratory disability
Influenza and grippe	48%
Diseases of the pharynx and tonsils	15%
Bronchitis	13%
Pneumonia (all forms)	8%
All other respiratory diseases	16%
	100%

Another interesting feature which comes to light is the greater seasonal fluctuation of short-period as compared with long-period respiratory disease. In both, the maximum rate is in February, the minimum in July, but where short-period sickness is recorded the February rate for "colds and other diseases of the nasal fossae" is 12 times the July rate, and no such enormous contrast occurs for any of the more serious respiratory diseases, except influenza, the February peak for the most fluctuating disease, namely, pneumonia, being only 5 times the July rate. Again, taking all respiratory diseases together, where short-period absence is included the February rate is almost 10 times the July, while where only long-period is counted it is not quite 6 times.

That the variations between plants in the incidence of respiratory diseases would be found to be very great if, as in the Edison plant, all absence were recorded, may be assumed from the fact that where long-period sickness only is recorded, the experience of 27 industrial sick-benefit associations ranged from 17 cases a year per 1,000 men in one plant to 85 per 1,000 in another. Evidently degrees of success in prevention of the common cold, which, as has been seen, is responsible for some 35 per cent of all absence, would greatly increase such variation and afford an index of the relative efficiency of the medical departments.

PUBLIC HEALTH NURSING

RUBY M. SIMPSON, REG.N., AND FLORENCE H. M. EMORY, REG.N.

PUBLIC HEALTH DISTRICT AND THE PUBLIC HEALTH NURSE

Among the more recent advances being made along public health lines, the system of dividing the provinces into districts or areas to be known as Public Health Units appears to be meeting with general favour throughout Canada. Quebec already has a number of these units established and British Columbia has one or two. At the recent session of the Saskatchewan Legislature, the Public Health Act was amended making provision for the organization of full-time Public Health Districts in Saskatchewan. This is the first legislation covering this matter to be passed in any of the provinces.

Briefly the scheme is this:—That eight or more rural municipalities, and the urban centres within their boundaries (except those having a population of 10,000 or over) may co-operate in arranging for a full-time medical officer, a sanitary officer, a public health nurse, and a secretary, who will also be a laboratory technician. In other words, a rural Health Department will be established similar to that in a city—the work, of course, being adapted to rural conditions. The whole time of the staff will be devoted to the promotion of the health and sanitation of the district.

The work of the public health nurse will include inspection of the school children in the district, and assisting the doctor with the medical examination of pupils; making home visits in connection with any children about whom parents should be interviewed; making pre-natal and post-natal visits in co-operation with the attending physician. This should be a big factor in reducing maternal and infant mortality in these districts. All homes where a case of tuberculosis exists, or from which a case has been sent to a sanatorium or a hospital, will be visited and kept under supervision with a view to preventing a spread of the disease and with a view also to seeing that any suspected or exposed cases are medically examined. In this way all such cases would be placed under treatment early. The nurse will be able to assist the local doctor in helping to have his instructions properly carried out. She will also be able to assist the family physician in immunization work such as vaccination and toxoid administration.

The new field will open up a wonderful opportunity for the public health nurse, and any nurses who consider work of this nature would be well advised to commence preparing themselves for such positions, by taking special public health courses, as there no doubt will be a demand for such qualified nurses in the very near future.

F. C. Middleton, M.D.

FOOD AND DRUGS

H. M. Lancaster, B.A. Sc., and A. R. B. Richmond, V.S., B.V. Sc.

Poisoning by Methyl Salicylate

In the February number of the Canadian Medical Association Journal two fatal cases of poisoning by methyl salicylate are recorded by Frank V. Woodbury, M.D., Examining Physician for the City of Halifax, and Albert G. Nicholls, M.D., of Montreal.

Their preliminary remarks are to the effect that cases of poisoning by methyl salicylate appear to be excessively rare, judging from the scanty references to the matter which appear in medical literature, not more than thirteen cases having been reported to date, six of them being fatal, and not all of these are fully corroborated by post-mortem examination or chemical tests.

Records of the two cases investigated are given, and the following remarks:

"Oil of wintergreen has been taken accidentally, with a view to suicide, and as an abortifacient. The amount usually stated to be a fatal dose is one ounce (Sollman), though recovery has taken place after the ingestion of this quantity. On the other hand, less than 15 cc. has more than once caused death. Nerthney's case, a child of three years, died after taking 12 cc. The smallest fatal dose was 10 cc. in a child of 21 months. Accidents from the therapeutic use of the drug seem to be unknown. This is due, no doubt, to the fact that oil of wintergreen is prescribed for external application only. At one time, years ago, it was a common practice to paint oil of wintergreen, and its congener guaiacol, on the skin in cases of rheumatism and even in tuberculosis. This practice has been discontinued, since it was realized that it was not free from danger, inasmuch as a great reduction in temperature, together with weakness, and even collapse, sometimes supervened. Sodium salicylate has also been known to produce untoward effects, when given internally, though no fatalities have been reported.

Where recovery has taken place, the following symptoms and physical signs have been noted: vomiting, purging, vertigo, general weakness, excessive appetite and thirst; rapid pulse, slow and laboured respiration; drowsiness and air hunger, acetone and diacetic acid in the urine; fever; contracted pupils, amblyopia; tremors, hemiparesis, and mania.

In the fatal cases, in addition, convulsions, tonic spasms, and opisthotonos may develop, followed by cyanosis, and collapse. The various authors lay stress upon epileptiform convulsions as the cardinal feature, clinically, in these cases. Pathologically speaking, the outstanding features are acute degenerative parenchymatous nephritis, acute gastritis, intense congestion and oedema of the lungs, and multiple small haemorrhages in the pericardial membrane, the pleurae, and sub-durally. The convulsions and the paretic manifes-

tations would appear to be explained by vascular disturbances in the cerebral cortex.

We would draw attention also to the fluidity of the blood, and to the extraordinary colour of the gastric mucosa, lungs, and kidneys, (Case 1), which strike us as characteristic. This is probably due to haemolysis, and would harmonize with the intense cyanosis that has been observed during life, and the marked lividity after death.

Oil of wintergreen is a drug in rather common use, and it does not seem to be appreciated that it may be highly dangerous. More than thirty years ago, Laborde, on the basis of experiments conducted on animals, noted the toxic action of aromatic beverages made from natural and artificial essences, and showed that methyl salicylate must be classed among the poisons that produce epileptiform convulsions."

A Successful "Drink Milk" Campaign

In Czechoslovakia, a new nation formed since the war, and not generally known as a great dairy country, they have had a "Drink Milk" campaign during 1927, which has been so successful that it is planned in the present year to open up 400 new milk centres, including railway stations. A milk educational film based on Czech historial events will shortly appear in the "movies". The cost of production of this film has already been covered by advance orders of exhibitors.

Coming as it does from a country little known here, the report of this successful "Drink Milk" campaign makes us a little bit envious. The people of Czechoslovakia seem to have taken hold of this campaign to advance the dairy industry in a practical and energetic way. The report does not state how many milk centres were in operation in 1927. In any case, the adding of 400 new centres in 1928 would indicate that the method adopted to induce the citizens to drink milk has been a gigantic success.

NUTRITION

Lena Denne, B.A.

Camp Cookery

CAMP cookery is an art distinct from the cuisine of kitchens. A common cook book is of very little use in the woods, for it is always calling for supplies we have not and does not tell what to do with the things we have. Equipment and foods will vary according to the type of outing. It may be a one-mile hike, an over-night hike (supper and breakfast), a two-meal hike (lunch and supper), a short canoe trip or a long canoe trip, a picnic (carried by auto) or meals in a permanent camp.

In order to plan well-balanced adequate menus with appetizing combin-

ation it is necessary to know something about the functions of food in the body, the different classes of foods, their general composition and the general principles underlying the cooking of each. To be well-nourished, free from any internal discomfort and to derive the greatest benefit nutritionally from the holiday is not a game of chance from the food point of view.

Good food standards are particularly important, especially since an out of doors appetite is keen and there is a temptation to eat underdone food or to have a fire so hot that the foods are burned.

Food for a hike must contain a maximum of nutriment with a minimum of bulk. The carbohydrate, fat, and protein foods are easy to secure, but the foods depended upon for cellulose or bulk, vitamins and mineral salts must have special consideration since they are more often fresh products and not so easily carried or kept.

In camp where fresh fruits and vegetables can be easily obtained nearby the problem is solved, but when the camp is far from the source of such supplies, fresh products may be carried the first few days, after which canned fruits and vegetables, especially tomatoes, will have to be used. For trips where it is important to travel light, the foods must be concentrated and contain little moisture, for water can be added. Dried fruits contain minerals, cellulose and vitamins; and dried milk contains, besides fat, protein and sugar, a good supply of calcium and vitamins. Evaporated or condensed milk is equally nutritious but heavier to carry; however, if weight is not a great consideration, a little is especially good in coffee.

To improve the mineral and vitamin supply in the day's meals, wild greens, as lamb's quarters, mustard and water-cress may be picked and prepared as any ordinary greens. Care must be taken to obtain them from a place where there is no sewage contamination.

The foods in the list below are suitable for carrying light. Definite quantities should be worked out according to the number of meals to be served.

Flour (*white, graham, cornmeal*), *meat* (*bacon, salt pork, ham, dried beef*), *lard, cereals* (*oatmeal, rice*), *sugar, dried fruit* (*raisins, figs, dates, prunes, apricots, apples*), *dried beans, dried egg, dried milk, cheese, salt.*

The question of preparation must also be considered. The following are easily prepared out of doors.

Cereals, eggs, fish, bacon, meat, vegetables, potatoes, carrots, onions, wild greens, white sauce, pancakes, baking powder biscuits and variations.

Out-of-door meals should be simple. Special care should be taken to have the food for the day adequate and well-balanced, giving attention to vitamin, mineral and laxative foods. Few foods, but plenty of each, are desirable. The one dish meal is the ideal over a campfire, as it means only one utensil. Too many fried foods, sweet foods, eating between meals, and soft drinks should be avoided. And the good camper always leaves a clean camp, burning or burying all debris, putting out his fire completely and leaving no embers.

NEWS AND COMMENTS

P. A. T. Sneath, M.B., D.P.H.

Yellow Fever

THE Rockefeller Institute for Medical Research since 1925 has had a Yellow Fever Commission studying this problem in West Africa in conjunction with the local medical authorities. Amongst the investigators concerned in this work, there are to be added two more casualties. Dr. Hideyo Noguchi, whose name and reputation are known throughout the scientific world, succumbed to yellow fever as a result of his experimental work at Accra, Gold Coast Colony, on the 21st of May last. Nine days later, W. A. Young, M.B., Ch.B., D.P.H., of the West African Medical Service, the Director of the Medical Research Institute at Accra, who was associated with the American workers, is reported to have died of the same disease.

The internationalism of medical science again shows itself in these gladiators of preventive medicine. Noguchi, a world renowned Japanese scientist at the age of 51, Young, a Scotchman of 40, worthy of all the traditions of His Majesty's Colonial Service, have joined that heroic list —the martyrs to science. Sometimes one feels that our profession is becoming stunted; however, in sacrificial examples of this nature, while we mourn the loss to family and the profession, we do derive inspiration in that there have been and are yet heroes in our midst with an interest not parochial.

Cost of Medical Care

THAT the statement that the person of average income cannot afford to be ill, is not an idle platitude is thoroughly realized by all who have the misfortune to be the victims of ill-health as well as those whose profession brings them in contact with sick humanity. On this subject at least two points of view pervade society at large. The laity have a notion that the responsibility lies with the professions concerned, while the majority of the latter find themselves faced with incomes entirely out of reasonable proportion to their outlay in time, effort and money. The initial cost of a medical education to-day is a decided drain on the family budget. With the pre-medical, medical and interne periods of a man's education required, the average practitioner does not even commence to earn his keep until the age of 27 years. The "beer and skittles" period does not follow even yet when one must face uncollected bills, free work at homes of clients, free service in hospitals and clinics, uncompensated preventive work, expensive equipment in addition to that bugbear of all, the high cost of living. It has been estimated in Denver, Colorado, that the physicians of that by no means uncommon city give at least one million dollars worth of services without charge each year. The medical profession are not alone in the problems of this subject. It concerns also the dental and nursing professions as well as institutions,

organizations and municipalities in their charitable endeavour.

An inquiry under a Committee on the Cost of Medical Care, with headquarters at 910 Seventeenth Street, Washington, D.C., has been undertaken to study these problems for the next five years. The members and interests represented on this committee are such as to assure a thorough and unprejudiced inquiry from the viewpoints of the public, public health, private practice, institutions and organizations, and of economics.

Research on Infantile Paralysis

MR. Jeremiah Milbank of New York has contributed the sum of $250,000 for the prosecution of further research on infantile paralysis in the direction of prevention and specific therapy. The administration of this fund is vested in a body known as the International Committee for Research on Infantile Paralysis, with the following executive officers—Dr. W. H. Park of the New York City Health Department, chairman; Mr. Samuel M. Greer, treasurer; and Dr. Josephine H. Neal, secretary, with headquarters at East 16th Street, New York City.

The work is to be carried out at the following centres—Bureau of Laboratories, New York City; the Pathological Institutes of Columbia, Harvard and Chicago; and in Europe, the Pasteur Institute in Brussels and the Lister Institute in London. Plans are that each of the selected institutions will prosecute a definite line of research co-ordinating its individual efforts with the others over the next three years. A director of research is appointed at each of the above centres who is free to initiate any research on the subject which he may consider desirable and within the scope of the respective institutions.

Movement of Population

IN that Canada so often reflects to some degree rural and urban life of the United States, it is of interest to note that the Bureau of Agricultural Economics of the United States reports that there is a decidedly lessened movement of rural population to the cities, and an increasing migration from the cities to the country. This state of affairs is explained by the slackening of industrial employment, the improvement of agricultural conditions, and the disillusionment of those who moved from the farms into the city. It would no doubt be a distinct benefit to the health of body, mind and pocket if our young people could see the attraction of agricultural pursuits.

IN the interests of administration and economy in England, two long established bodies whose activities were largely directed towards public health are to be discontinued. The Board of Guardians is to disappear and the work is to be carried on by the municipal and county councils. Similarly, the Metropolitan Asylums Board, which has heretofore directed the Poor Law institutions in the Metropolitan Boroughs of London, is to be taken over. From press reports it would appear that this marks another step in the development of the Ministry of Health. This body will assume the directing authority over such phases of the work

as are of a strictly public health nature, the remaining interests being under other departments of the Government.

Manitoba

THE Winnipeg Health League recently held a successful Health Exhibition which was well attended and highly appreciated by the public. The exhibits were excellently arranged and attractively displayed. They depicted such phases of the work as—Infant and Child Welfare; Mosquito Prevention; Venereal Disease Control; Communicable Diseases; and Dental Hygiene. Lectures on health subjects were given and moving pictures shown. Dr. Speechley, President of the League, and his associates deserve high praise for the efforts put forth to make such a fine showing.

A Mosquito Prevention Campaign was inaugurated this spring, in Winnipeg and its suburbs, by the Winnipeg Health League, and the Young Men's Board of Trade. A fund was raised by popular subscription for this purpose, which was supplemented by a grant from the City Council. Oiling was carried on extensively, measures were taken to drain low-lying land, and holes where water might collect were filled in. Surprisingly good results were obtained, and it is gratifying to be able to report that the mosquito, which in the past has been the most unpleasant feature of the summer in this neighbourhood, has this year been practically absent. The citizens of Winnipeg and suburbs are indebted to the organizers and workers who have brought this condition about.

A paper by Dr. A. L. Lockwood of Toronto read recently at the Convention of the Canadian Nurses' Association at Winnipeg suggested a means of reducing the costs of nursing service to the middle classes of the community. This service may be described as group nursing, by which system a special nurse would be retained for several patients at one time, none of which would require her constant attention, a scheme similar to that obtaining now in the average public ward in any hospital. Dr. Lockwood expressed the opinion that the medical profession would shortly be demanding a nursing service of this kind and suggested that the nursing profession would be well advised to consider such a modification in their practice.

The following officers were elected at the Winnipeg Convention of the Canadian Nurses' Association—President, Miss Mabel F. Huisey of the Royal Victoria Hospital, Montreal; First Vice-President, Miss K. W. Ellis of the Vancouver General Hospital; Second Vice-President, Miss Edith B. Hurley of the University of Montreal; Hon. Treasurer, Miss Ruby Simpson, Regina, Sask.

Ontario

THE following changes have taken place in the personnel of the Department of Health of the City of Toronto. Dr. J. F. Hazelwood has resigned his appointment as Director of Public Health Laboratories to become attached to the Workmen's Compensation Board; Dr. A. B. Moffatt has been promoted to fill the vacancy created by Dr. Hazelwood's resignation, while Dr. J. E. Laxton has been appointed Deputy Director of Public Health Laboratories.

At the last session of the Ontario Health Officers' Association, Dr. W. Egerton George, D.P.H. of North Bay, District Health Officer of the Department of Health of Ontario, was elected President of the organization for the ensuing year.

M. D. Orr, B.A., late Chief Chemist in the laboratories of the Insulin Committee, has been appointed to the staff of the Connaught Laboratories as Resident Assistant Director at the University Farm.

Dr. C. H. Best, head of the Department of Physiological Hygiene in the School of Hygiene, University of Toronto, has been awarded the degree of D.Sc. by the University of London for his research in biochemistry and physiology, carried out at the National Institute for Medical Research, Hampstead.

In the light of our present maternal mortality rate, it is significant to note that owing to the lack of patients the Health Department of the City of Toronto has been obliged to close down its pre-natal clinics. Some discussion has been occasioned in the daily papers over this move. It would seem that as yet women themselves are not fully aware of the present hazards of child-bearing nor are they aware of the preventive value of pre-natal supervision. Until the prospective mothers put aside their outlook of fatalism and take advantage of the facilities at their call, the city cannot afford to maintain these clinics. In the meantime pre-natal clinics organized in the various hospitals will continue to afford the protection of observation and advice to those who care to avail themselves of their facilities.

In future the graduate degree in Medicine from the University of Toronto will be M.D. This change has been made retroactive so that those in possession of the M.B., Toronto, may, on application to the Registrar of the University and the payment of a fee of ten dollars, obtain the M.D. without examination.

New Brunswick

THE New Brunswick Women's Institute at its recent annual meeting spent considerable time discussing health problems such as maternal mortality and child welfare. The active interest of the Women's Institutes in these problems has been an important factor in furthering health activities in not only the larger centres, but also in the smaller communities where such institutes are of particular value.

Dr. Mabel L. Hanington, Medical Inspector of Schools of St. John, N.B., Convenor of the Committee on Mental Hygiene of the National Council of Women of Canada, has been in attendance at the National Convention of that body in Toronto. Dr. Hanington in addition to her official duties has, for years, been very active in furthering the cause of Mental Hygiene in New Brunswick.

Miss Charlotte Whitton, Executive Secretary of the Canadian Child Welfare Council, visited New Brunswick during the month of June to organize a child welfare survey of the Province which is to be carried out by the Council, with financial assistance from the Kiwanis Club of Saint John.

BOOK REVIEWS

D. T. Fraser, B.A., M.B., D.P.H. and R. R. McClenahan, B.A., M.B., D.P.H.

Health and Wealth—A survey of the economics of world health by Louis I. Dublin, Ph.D., Statistician of the Metropolitan Life Insurance Company. 361 pages, published by Harper and Bros., New York and London, 1928. Price $3.00.

The need of the hour in the widespread movement for better health is not for more physicians, nor for larger and more numerous organizations, nor even for additional research, but for the dissemination, to the public at large, of the facts which are already in our possession. Too much, unfortunately, of the information which frequently forms the basis of campaigns for better health service is unconvincing because concrete statements based on careful and studied analyses of past experience are lacking. The approach, from the economic side of the problem of the preservation of our life and health, is one which can only be made by those who are engaged as specialists in the field of economics and who, at the same time, have a wide knowledge of public health. To bring to us the results of such studies has been the objective of Dr. Louis I. Dublin, Statistician of the Metropolitan Life Insurance Company, in publishing a series of fifteen essays in one volume entitled, "Health and Wealth".

"From my point of vantage", says Dr. Dublin, "I can scarcely avoid seeing how great are the losses in the community from preventable diseases, and how great are the stakes in the new Public Health Campaign".

The essays cover many of the most important phases of public health work. In the essays, "The Economics of World Health", "The Cost of Medical Care", and "What It Costs to Neglect Our Children", one finds a wealth of material dealing with the economic value of human life. The problems of heart diseases, of tuberculosis and of cancer form the subjects of three chapters, each presenting the epidemiological facts with a careful survey of the statistical data. In a short review of this character, it is impossible to mention in detail the content of any of the essays. One can say, however, in reference to the essays on the diseases mentioned, that it is doubtful if in any other book can be found in such convenient form not only the facts concerning the trend of these diseases in the United States and Canada, but also as valuable a critical survey of the data, free from the over-enthusiasm of many public health workers.

The fundamental subject of population is not neglected, and important chapters are included dealing with the rate of natural increase, vitality of race stocks and the development of the family.

The book should be read not only by physicians and by those engaged professionally in public health, but by that large group of citizens who have an interest in not only their own well-being, but in their community.

R. D. Defries.

Syphilis — By Henry H. Hazen, A.M., M.D., Professor of Dermatology and Syphilology, Medical Department of Georgetown University, Second Edition, 1928, 643 pages, illustrated. Price $10.00. C. V. Mosby Company, 3523-25 Pine Blvd., St. Louis, U.S.A. McAinsh & Co. Ltd., 60 Front W., Toronto, Canadian representatives.

This book, from the standpoint of material, form, illustrations and printing, is well worth adding to the literature of syphilis. It is well indexed, and the use of separate chapters for the consideration of the different aspects of syphilitic infection makes it a book of ready reference.

In the introduction, the author gives credit to others for contributions to this comprehensive volume. In the first section, the incidence and economic importance of syphilis are dealt with in some detail. Following this, the chapters on the etiology and pathology of the disease are complete, and, unlike many reference books, include the more recently acquired knowledge. A large part of the book is devoted to the clinical course of the disease. Here, infection of the respiratory system, circulatory system, digestive system, nervous system, bones, joints, eye and ear, and congenital syphilis are discussed, each in separate chapters. The discussion on the infection of the nervous system is particularly complete. Diagnosis and prognosis are well set forth, and both the student and physician should derive much benefit from these chapters.

Treatment, prophylactic and therapeutic, is discussed in an excellent chapter. The various drugs used in luetic therapy are given, some in detail, with commendation, others only mentioned.

This book as a whole should prove valuable to those having to deal with syphilis.

Chas. P. Fenwick.

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THE CANADIAN PUBLIC HEALTH ASSOCIATION

MEETS IN

WINNIPEG, OCT. 11th, 12th, 13th, 1928

MEMBERS ATTENDING CAN GO DIRECTLY TO THE MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION IN CHICAGO

CURRENT HEALTH LITERATURE

A Selected Public Health Bibliography with Annotations

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BACHE, L. F. Health Education Programme in a City of 100,000. The American Journal of Public Health, May 1928, page 581.

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SYDENSTRICKER, E. Sex Differences in the Incidence of Certain Diseases at Different Ages. Public Health Reports (U.S.P.H.S.) May 25, 1928, page 1259.

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KNIGHT, I. W. Scarlet Fever Control Procedures. Public Health News (New Jersey Department of Health), June 1928, page 152.

Public Health and Private Practice—A consideration of the relationship of Departments of Health and private practitioners with a special reference to the administration of toxoid.

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DUNN, M. J. The Public Health Nurse in the Nursery School. The Public Health Nurse, June 1928, page 279.

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